ATTACHMENT B

BELL ATLANTIC'S RESPONSES TO ISSUES DESIGNATED FOR INVESTIGATION

A. Are the rate level established in the LECs' physical and virtual expanded interconnection tariffs excessive?

Bell Atlantic's tariff rates are not excessive and, in fact, fail to cover the full opportunity (economic) costs of physical and virtual interconnection.

Itemized Cost Information (Designation Order, p. 10)

1. Bell Atlantic's investment-based recurring rate elements are the cross connect, connection service, cable support, and DC Power. Bell Atlantic determined the material price from the most current vendor price lists available. (An inflation factor may be used to adjust the vendor price in the event that the price list is from the previous year.) Engineering and installation costs were identified and added to the investment amount. A loading for land and buildings was applied to the investment amount to capture the incremental land and buildings associated with the investment. (These land and buildings amounts were included in Bell Atlantic's rates filed in Transmittal No. 557, but are not now reflected in currently effective rates.) In some cases, as indicated below, once the investment amount was identified, a portion of it was allocated to the collocation service.

The investment components for each rate element included in the TRP are:

Cross Connect

- DSX Connection

Connection Service

DS3 Physical

- COAX cable
- DS3 intra-office bridging repeaters, uni-directional
- Cable rack/riser duct, allocated among collocated services

DS3 Virtual

- COAX cable

- Maintenance of collocator-provided circuit equipment, based on maintenance expense incurred using surrogate equipment

- Fiber distribution shelf, allocated among collocated services

DS1 Physical

- COAX cable, shared among DS1 services
- DS1 intra-office bridging repeaters, uni-directional
- Cable rack/riser duct, allocated among collocated services

DS1 Virtual

- ABAM cable
- Maintenance of collocator-provided circuit equipment, based on maintenance expense incurred using surrogate equipment
- Fiber distribution shelf, allocated among collocated services

Cable Support Fee

Physical

- Central Office manhole, capacity costed
- Entrance conduit, per duct
- Central Office vault, per square foot required
- Riser duct, per duct
- Cable rack, allocated among collocators
- Conduit, per cable

Virtual

- Central Office manhole, capacity costed
- Entrance conduit, per duct
- Central Office vault, per square foot required
- Riser duct, per duct
- Cable rack, allocated among cables
- Cable maintenance, per cable

DC Power Charge

- 200 ampere power plant rectifier
- Power plant battery equipment, with eight hours battery reserve
- 750 MCM AWG cable
- Diesel Generator, 150 KW engine with 9 KW allocated to collocators
- Commercial AC power to convert to DC power

(a) Investment-related Direct Costs: Bell Atlantic's recurring direct costs for each interconnection rate element consists of two major components -- capital costs and operating expenses. The capital costs reflect the investment used to provide the interconnection and consist of depreciation, cost of money, and income taxes. The operating expenses result from the ongoing use of the investment, and consist of maintenance expenses, administrative expenses, and other (non-income) taxes. Bell Atlantic's currently effective recurring rates do not include the direct costs of administration or other taxes.

Direct cost factors are applied to unit investments for each interconnection recurring rate element. These unit investments reflect the cost of the equipment used for each element, and as originally filed, included a loading for land and buildings. The direct costs that support Bell Atlantic's currently effective recurring rates do not include land and buildings.

Bell Atlantic's costs were developed on an individual study area basis and were weighted by demand to calculate weighted average investment and costs.

(b) Capital Costs

Depreciation: Two types of depreciation were involved in the determination of recurring capital costs -- book depreciation and tax depreciation. Book depreciation is the repayment of invested capital and is a direct component of capital costs. Tax depreciation is the schedule of expense

deductions used in determining income taxes. While tax depreciation is not a direct component of capital costs, it is used in the formula for computing income taxes, which are themselves a direct component of capital costs. Tax depreciation is discussed below.

Book depreciation is based on total investment in assets less future net salvage, and estimated economic life characteristics. Book depreciation is calculated by plant account and jurisdiction on a straight-line basis using the equal life group (ELG) method in combination with the FCC prescribed depreciation parameters for life, salvage, and mortality curve. These parameters were taken from Bell Atlantic's approved triennial depreciation studies which were submitted to the FCC and state commissions.

Individual depreciation direct cost factors for the interconnection elements were determined for each Bell Atlantic jurisdiction. For example, a Pennsylvania-specific depreciation direct cost factor was calculated for each investment type using Pennsylvania's prescribed depreciation parameters. These factors were applied to the unit investment components of each rate element to derive the recurring costs associated with depreciation.

Cost of Money: The cost of money is determined by adding the weighted cost of debt to the weighted cost of equity. The cost-of-money factors were calculated on a jurisdiction-specific

basis by multiplying the net investment base by the composite cost of money rate for each period.

The cost of money percentage that appears on the TRP Line 23 is not comparable to that used in rate calculations. The formula calculates (1) amount of the periodic payment needed to pay off a loan, given a specified periodic interest rate and number of payment periods, and (2) subtracts depreciation expense from the periodic payment calculated in (1). The TRP directions instruct LECs to set the equation equal to their cost of money capital expense amount shown on Line 22 of the TRP, and solve for interest rate i. The Designation Order then directs LECs to justify the percentage cost of money displayed on each TRP chart.

The percentages generated by the Commission-prescribed formula are not an accurate representation of Bell Atlantic's cost of money input. The cost of money percentages that are appropriate are the jurisdiction-specific numbers that reflect the estimated cost of raising capital in the financial markets. The cost of floating equity and issuing debt are weighted to determine the "weighted cost of capital." When Bell Atlantic enters the financial markets to raise capital, Bell Atlantic is treated like any other firm with similar risk characteristics. Financial markets do not adjust Bell Atlantic's costs to meet the Commission's 11.25% authorized rate of return. Therefore, Bell Atlantic must account for the actual, not theoretical,

costs of raising capital in setting forward-looking rates. The cost of money percentages are shown on Exhibit 1.

Bell Atlantic's prospective composite cost of capital, by jurisdiction, ranges from 12.8% to 13%, and is a weighted composite of debt and equity. The prospective cost of capital is a key input used in the development of the cost of money annual cost factor. Other key variables include cost of debt, discount rate, composite income tax rate, and debt ratio.

Income Taxes: The third component of capital costs is the direct cost factor for state and federal income taxes. This factor is necessary to permit the company to earn its authorized rate of return, which is based on after tax earnings.

The income tax direct cost factor represents the amount by which revenues must be increased so that the amount remaining after payment of income taxes is sufficient to yield the authorized rate of return. Because the authorized return is based on investment, the income tax component is a capital cost item.

In computing the income tax direct cost factor, Bell Atlantic used current federal and state tax rates, as well as the effects of debt interest, tax depreciation, and other factors. Tax depreciation is calculated separately from book depreciation because it differs in timing, amount, and characteristics. In particular, some investment components that are included in book depreciation are not included in tax depreciation calculations. Examples include social security

taxes, which are not used for tax depreciation purposes because they are tax deductible in the year incurred, and capitalized interest during construction, which is not used for tax depreciation purposes because interest is a deductible expense item in the year incurred.

Bell Atlantic's income tax direct cost factors were calculated for each of the major classes of plant in each jurisdiction. These tax amounts were calculated for the estimated service life of each investment, and were then converted to present worth using the composite cost of money as the discount interest rate.

(c) Operating Expenses

Maintenance: Maintenance is a recurring expense associated with keeping facilities and investment in good operating condition. Maintenance includes general supervision, engineering associated with maintenance work, labor and material costs incurred in the upkeep of plant, rearrangements and changes of plant, training of maintenance personnel, testing of equipment and facilities, and miscellaneous expenses such as tools, supplies, etc.

Maintenance factors were developed and applied to unit investments to compute recurring direct costs. The maintenance factors used in Bell Atlantic's interconnection filing are based on 1991 Part 32 investment and expense amounts.[1] For example,

---

1. These 1991 amounts form the basis of the ARMIS reports filed in 1992.

cross-connect investment is booked to Part 32 Account 2232, while related maintenance expenses are booked to Account 6232 - Circuit Equipment Maintenance Expense and a subaccount of Account 6530 - Network Operations Expenses. The circuit equipment maintenance expenses were divided by the investment dollars to develop a circuit equipment maintenance factor. A building maintenance factor was developed by dividing building maintenance expense by building investment. The circuit equipment and building maintenance components, which were based on 1991 costs, were further adjusted by an inflation factor. The sum of the components yielded the annual maintenance factor.

Administration: Administrative expenses are costs required to operate the business and deliver telecommunications services, and include the cost of administrative work functions such as planning, forecasting, rating, selling, accounting, etc., as well as the cost of carrying support investments and other miscellaneous items.

For each of its jurisdictions, Bell Atlantic performs annual administrative expense studies to estimate administrative costs associated with primary plant investments. The administrative factors used in Bell Atlantic's interconnection filing were developed from 1991 accounting data.

Other Taxes: Other taxes reflect taxes that municipalities and other taxing authorities levy against the value of property owned by Bell Atlantic. These taxes include property taxes and capital stock taxes, and they vary by state jurisdiction and

type of investment. For example, in Pennsylvania, both capital stock taxes and property taxes are applicable to land and buildings while only capital stock taxes are applicable to other investments. The other taxes factors were developed from 1991 Bell Atlantic Part 32 account data.

2. Bell Atlantic calculated its investment amounts on a prospective basis. The depreciable lives for each item of equipment listed in the TRP are based on FCC prescribed parameters. Exhibit 2 contains the depreciable lives by a Bell Atlantic company.

3. Bell Atlantic filed the following nonrecurring rate elements in its collocation tariff that recovers labor costs:

1. Design and Planning Fee - Physical
2. Design and Planning Fee - Virtual
3. Cable Installation (same for Physical and Virtual)
4. Cage construction
   Standard - 100, 200, 300, 400 square feet
   Nonstandard - 100, 200, 300, 400 square feet
5. AC outlet construction
6. Overhead light construction

Design and Planning Fee - Physical: Bell Atlantic's February 16th collocation filing (Transmittal No. 557) provided much of the requested information. Workpaper 5-3 in Transmittal 557 itemized the functions, listed the appropriate labor rates, calculated the labor costs, and listed additional travel expenses. The following provides more information on the labor functions and the method of estimation. The original workpaper is included as Exhibit 3 and already contains the labor time.

The labor costs associated with each function reflect wages plus benefits plus loadings. The direct wages include a

productive hourly wage amount, overtime, supervision of the employee, clerical support, and paid absences for holidays, vacation, and short term illness. The benefits portion of the hourly wage is comprised of social security and relief and pensions. In addition, an hourly increment is added to capture time spent on special projects. A general expense loading is added to the total of the preceding items, and reflects an increment for people or organizations that serve and benefit all departments. This loading includes Executives, Legal, Human Resources, External Relations, among others. This general expense loading is about 10 percent of the total hourly wage.

The design and planning fee is a nonrecurring charge that covers the expenses associated with the advance planning and preparation of a design proposal that will meet the collocator's requirements for its requested collocation arrangement. The costs for Physically-Collocated interconnection arrangements include the overall coordination of the project, engineering layout and design, operations feasibility assessments and construction work and cost estimation. In addition, Physically-Collocated arrangements require that the switching engineering and real estate staffs reassess their estimated space requirements, and that the security staff thoroughly assess the central office's existing access and security arrangements and calculate cost estimates for any necessary security system changes.

Project Coordination: This function includes the personnel time and associated expenses (such as travel) to initiate and

manage the design and planning process for each individual collocation request. The regional coordinator is responsible for working with the customer and the local major project team coordinator to ensure that all customer requirements are understood and addressed and that the Commission's requirements and those of the collocation tariff are adhered to uniformly. The local major project team coordinator is responsible for forming and managing this team with central office-specific local personnel together with regional personnel.

Engineering and Network Operations: These functions include engineering (both local and regional) and network operations (primarily local) personnel time and the associated expenses to assess jointly with other major project team members the central office for collocation, to identify and create plans for necessary construction work and estimate construction charges and to design and plan the layout necessary to satisfy the collocator's request.

Real Estate: These functions, which apply only to physical collocation, include the local real estate personnel time and associated expenses to identify the space to be dedicated to each individual collocator after a thorough assessment of real estate plans for the central office building, and jointly with other major project team members, to identify and create plans for necessary construction work and estimate construction charges.

Security: These functions, which apply only to physical collocation, include the security (both local and regional) personnel time and associated expenses to identify the space to be dedicated to each individual collocator after a thorough assessment of existing and possible security arrangements for the central office building, and jointly with other major project team members, to identify and create plans for necessary construction work and security system/procedure changes and to estimate costs associated with such security system/procedure changes.

Marketing: These functions include the service representative's time to process the initial collocation request.

Design and Planning Fee - Virtual: Workpaper 5-4 in Transmittal 557 itemized the functions, listed the appropriate labor rates, calculated the labor costs, and listed additional travel expenses. The following provides more information on the labor functions and the method of estimation. The original workpaper is included as Exhibit 4 and already contains the labor time.

The design and planning fee for Virtually-Collocated Interconnection covers the expenses associated with advance planning and preparation of a design proposal that will meet the collocator's requirements for its requested collocation arrangement. These costs include the overall coordination of

the project, engineering layout and design, and operations feasibility assessments -- each of which is described above.

Cable Installation: Workpaper 5-5 (Lines 15 through 18) in Transmittal No. 557 listed the job function, labor time, and total installation cost. That workpaper is included as Exhibit 5. The craft technician that under normal circumstances will perform the installation work is from Bell Atlantic's outside facilities engineering organization.

These costs are associated with installation of each collocator-provided fiber entrance cable from the central office manhole or other designated location into and through the central office cable vault and to the collocation equipment. For physical collocation, this fiber cable is installed up to the collocator's cage, and for virtual collocation, it is installed up to the virtual collocation equipment area. The length of the installation was estimated to be approximately the same under both physical and virtual collocation, therefore, the cost estimates for each approach are the same.

Cage Construction: Bell Atlantic used contractor-provided cost estimates for this component based on the two types of cages (standard and nonstandard) and the four sizes of each. Cage specifications are as identified on the written estimate, a copy of which is provided as Exhibit 6.

AC Outlet Construction: Bell Atlantic used contractor-provided cost estimates for this component based on the

specifications cited on the written estimate, a copy of which is provided as Exhibit 7.

Overhead Lighting Construction Bell Atlantic used contractor-provided cost estimates for this component based on the specifications cited on the written estimate, a copy of which is provided as Exhibit 8.

Overhead Cost Information (Designation Order, pp. 10-11): Bell Atlantic's Workpaper 5-9 submitted with Transmittal 557, included as Exhibit 9, contains the overhead loading factor calculation and shows amounts and sources from the ARMIS 43-01 Report (Special Access category). This factor was applied uniformly to the direct unit costs for each recurring interconnection rate element to estimate reasonable overhead loadings.

After application of the overhead factor to each recurring rate element, Bell Atlantic uniformly rounded each element up to the nearest whole dollar. The method was uniformly applied, and whole dollar amounts are easier for customers to work with and remember.

Overhead loadings (difference between costs and rates) for DS1 and DS3 services are shown in Exhibit 10. This exhibit shows that, for DS1 services, the loadings range from 16.3 to 5.59. Thus, Transmittal No. 557's overhead loading factor of 1.68 is conservative. Moreover, the Commission-calculated factors of 1.5287 (pre-GSF reallocation) and 1.4351 (post-GSF reallocation) are much lower than Bell Atlantic's overhead factors.

The differences in the rate-to-cost relationships among DS1 and DS3 services are due to marketing decisions made by Bell Atlantic for its competitive DS1 and DS3 services. It is entirely reasonable to offer term plans in exchange for longer term revenue commitments from customers.

Bell Atlantic's interim interconnection tariff (Transmittal No. 540, filed December 21, 1992) proposed to calculate interconnection overheads on the basis of the rate-to-cost relationships that existed then for all DS1 and DS3 services. These factors ranged from 2.1 for DS3 to 2.4 for DS1. Informal discussions with the FCC staff indicated that this method was not acceptable, and Bell Atlantic refiled interim rates based on an ARMIS-based overhead factor calculation.[2]

Since the DS1 and DS3 Rate-to-Cost ratios are much higher than the 1.68 factor, Bell Atlantic felt that an additional downward adjustment specifically for collocation was not required.

2. The revised overhead factor for interim interconnection was equal to the factor filed in Transmittal No. 557.

Sample Price Outs (Designation Order, pp. 11-12): Bell Atlantic's sample price out is attached as Exhibit 11. The Price Out chart shows that the DS1 interconnection rates are only 16.58% of a DS1 channel termination. A copy of the Price Out Chart is also provided on a diskette in LOTUS 1-2-3 format.

Nonrecurring Charges for Recurring Costs (Designation Order p. 12): Bell Atlantic did not use this cost methodology.

Floor Space Charges (Designation Order, pp. 12-13):

1. Bell Atlantic based its central office occupancy fees on market value. This method is reasonable because all real estate is judged based on market value, not book value. Per Commission instruction, Bell Atlantic estimated the average cost per square foot under each method. This comparison is shown in Exhibit 12.

2. Bell Atlantic's floor space charge was derived by the addition of two components. *See* Exhibit 13. The first component is a geographic location-specific cost for standard office space located near each of the Central Offices. The market rental rate was obtained from locally published real estate listings, where available, and from assessments performed by real estate brokers. In every case these market rates are composed of two components. The first is the pure rent component, devoid of any other costs or services (known as a triple-net rent), the second is the operating costs (property taxes, utilities, cleaning, maintenance). Operating costs were derived from locally published real estate data, the nationally published BOMA Experience Exchange Report or assessments of local real estate brokers. Each component was derived separately to ensure that no cost was double counted. The combination of the two components produces a full service rental rate for standard commercial office space specific to the location of each central office.

The second component was developed to identify the extraordinary costs that distinguish central office space from standard commercial office space. Features such as higher ceilings to accommodate switch frames and cable racking, reinforced structure to support heavy equipment, greater electrical system capacity, environmental conditioning for humidity and air filtration, and heightened fire and security protection make a central office unique from standard office space. The costs of these features were derived from the R.S. Means Building Construction Cost Data for each of the metropolitan areas in Bell Atlantic's region for which data are available. An average cost of the central office features was multiplied by the Company's Composite Cost of Capital to produce an annual rental rate per square foot for these features.

Adding the market rate for standard office space to the rate for central office features produces the rate per square foot for each central office.

1.		Rent
	+	Operating Expenses
	=	Full Service Rental Rate (standard office space)
2.		Current Value of Central Office features
	X	Cost of Capital
	=	Rent for Central Office features
1 + 2		Full Service Rental Rate
	+	Rent for Central Office Features
	=	Total Rent

3. In its *Special Access Tariff Order*, the Commission required Bell Atlantic to remove from the occupancy fees costs that it identified as "administrative" in the February 16, 1993 collocation tariff filing.[3] Those costs have been and will continue to be incurred by Bell Atlantic as a direct consequence of the Commission's October 1992 Collocation Order. Those costs are not recovered through the market-based and cost-based prices which are based on outside sources such as Black's Guide, the R.S. Means publication and real estate brokers. This is because, unlike those who have historically relied on outside sources such as Black's Guide and real estate brokers, Bell Atlantic is not an "average landlord," but rather one that must make continuing, additional complex assessments of its needs for and use of space within telecommunications central offices in light of the additional occupancy required under the Commission's collocation mandates.

For instance, an average landlord does not have Switching Engineering people who must periodically review and modify switch expansion plans based on changes in demand and technologies. This additional LEC responsibility reduces the ability to predict space needs for long periods of time as an average landlord often could. Regulatory changes may require more frequent re-evaluations and increase these costs. Further, this responsibility adds considerably to the cost of assessing

---

3. Ameritech Operating Companies, 8 FCC Rcd 4589 (Com. Car. Bur. 1993) (*Special Access Tariff Order*).

a central office building for the purpose of ensuring that space remains available, or has become available, for collocation. Also, an average landlord does not have to perform an extensive and comprehensive security assessment like that required for central offices housing sensitive telecommunications equipment used to provide service to large numbers of people. This, too, adds to the cost of ensuring that central offices reflected in Bell Atlantic's tariff are continually correct (updates to the tariff will be necessary as central office plans change and as collocators deplete available space).

The inclusion of these additional "administrative" costs is therefore necessary to enable Bell Atlantic to recover the costs that it incurs to provide collocation pursuant to the Commission's order and is therefore reasonable.

4. Not applicable. Bell Atlantic priced all central offices and did not use a sample.

Power Charges (Designation Order, p. 13): Bell Atlantic included $572 per month as the estimate for AC power included in the DC power costs. Bell Atlantic used the following equation to calculate the cost of AC power used in the conversion of DC power:

Ave. KW charge*Hours/Month*Rectifier Load*Total Discharge Load

The average kilowatt charge was based on an average of the per kilowatt charges of the major electric utilities in the Bell Atlantic region. The rectifier load was determined using a standard engineering load equation. The total discharge load represents the portion of the rectifiers output that will be allocated to collocators. Refer to Exhibit 14 for actual calculations for the AC power costs.